JAMES RIVER

WATERSHED INVENTORY AND ASSESSMENT

This information is based on the

James River Watershed Inventory and Assessment

prepared by

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EXECUTIVE SUMMARY

The James River Basin is a sub-basin of the White River Basin which is part of the Arkansas-White-Red drainage system. The basin is located in southwest Missouri in portions of Webster, Greene, Christian, Stone, and Barry counties. It lies mainly within the Ozark Plateau physiographic region and in portions of the Springfield and Salem plateaus. The James River flows approximately 99 miles from its headwaters in Webster County into Table Rock Lake where its lower reaches have been impounded. The major tributaries to the James River include Pearson Creek, Wilson Creek, Finley Creek, Crane Creek, and Flat Creek.

Land use is approximately 63% agricultural (mostly pasture and some row cropping), 30% forested, and 7% urban. Major cities and towns in the basin include Springfield, Ozark, Nixa, Rogersville, and Reeds Spring. Urbanization and human population are increasing.

The James River watershed totals 1,512 square miles. Streams of order 5 or greater are James River, Flat Creek, Wilson Creek, Finley Creek, Crane Creek, and Rockhouse Creek. The total mileage of streams with permanent flow is 289 miles. Intermittent streams with permanent pools add another 74 miles. Several losing stream reaches and numerous springs are also located in the basin.

Point source pollution affects many of the streams in the basin. Effluents from sewage treatment facilities enter streams at several locations. Numerous industries, subdivisions, mobile home parks, and apartment complexes also have permits to discharge treated wastes into streams. Concern has been focused on the effects of phosphorus from these sources on the productivity of the lower James River and Table Rock Lake.

Potential sources of nonpoint pollution in the basin include: dairy cattle operations, poultry husbandry, sedimentation from erosion in disturbed watersheds, sludge application from sewage treatment facilities, coal pile runoff, seepage from septic tanks, and runoff from urban areas.

The James River is part of the Ozark-White Division natural community. The streams in this community are typically found in narrow, steep-sided valleys with high bluffs and are characterized by high gradient and relief. These streams are mostly clear with gravel, rubble, and bedrock bottoms. Numerous springs influence the flow and temperature characteristics of these streams.

Seventy-one fish species have been collected in the basin. Common sportfish include smallmouth bass, largemouth bass, spotted bass, white crappie, Ozark bass, channel catfish, and rainbow trout. State or federally listed threatened and endangered species include the Ozark cavefish, Missouri bladderpod, Ozark big-eared bat, Indiana bat, and the gray bat.

Stream habitat quality is fair to good throughout most of the basin. Some areas, including portions of the Crane Creek sub-basin, suffer from a severe lack of riparian vegetation. The lack of adequate riparian corridors, excessive nutrient loading, streambank erosion, excessive runoff and erosion, and the effects of instream activities such as gravel mining are among the problems observed in the basin. Grazing practices along many streams contribute to streambank instability, nutrient loading, and poor riparian conditions. Increased clearing and higher runoff associated with urbanization in the basin also impact stream habitat quality.

Our major goals for the basin are improved water quality, better riparian and aquatic habitat conditions, the maintenance of diverse and abundant populations of native aquatic organisms and sportfish, increased recreational use, and increased public appreciation for the stream resources. Additional fish population samples will be collected and appropriate habitat surveys will be conducted. Fishing regulations will be revised and limited stocking will be used, as needed, to maintain and improve sportfishing. Access will be improved, where needed. Cooperative efforts with other resource agencies on water quality and quantity, habitat, and watershed management issues will be critical. Enforcement of existing water quality and other stream related regulations and necessary revisions and additions to these regulations will help reduce violations and lead to further water quality improvements. Working with related agencies to promote public awareness and incentive programs and cooperating with citizen groups and landowners will result in improved watershed conditions and better stream quality.